

Congenital Cytomegalovirus Infection

Human Herpesvirus 5

What is Cytomegalovirus?

Cytomegalovirus (CMV) is a common fever-causing viral infection that is rarely serious in healthy children and adults. This infection often goes undiagnosed due to a lack of characteristic symptoms.

CMV infections may be responsible for approximately 10 per cent of mononucleosis cases in university students and hospitalized adults between the ages of 25 and 34. CMV is also the most common cause of post transplant infection for solid organs and bone marrow transplants. CMV can be more serious for children or adults whose immune systems have been weakened by disease or drug treatment, such as organ transplant recipients or people infected with HIV.

In rare cases, a pregnant woman who has CMV can pass the virus on to her fetus. However, it is also the most frequently transmitted virus to a fetus. Five to 10 per cent of fetuses who become infected with CMV may develop severe illness, which may cause death. The fatality rate for severely affected newborns is high.

Once a person has had a CMV infection, the virus usually lies dormant (or inactive) in the body and can be reactivated at another time. The virus is more likely to be reactivated and cause serious illness in people who have weakened immune systems due to illness.

Symptoms of congenital CMV infection

Most infants who are infected before birth usually show no symptoms of a CMV infection after they are born, although some of these infants can develop hearing, vision, neurological, and developmental problems over time. Infants who experienced more severe infection in the womb may be born with generalized infection involving the central nervous system and the liver. This may result in symptoms of mental disability, microcephaly (an abnormally small head due to failure of brain growth), motor disabilities, hearing loss and chronic liver disease.

The infected newborn may have signs and symptoms such as:

- Lethargy (tiredness)
- Convulsions
- Jaundice (yellow colour to the skin)
- Red or purple spots on the body that appears like a rash
- Red or purple discolorations under the skin that do not disappear when applying pressure and releasing

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- Enlargement of the liver and the spleen
- Swelling of the choroid and retina of the eye
- Abnormal deposits of calcium in the brain and lungs

Permanent health problems or disabilities due to congenital CMV infection may include:

- Hearing loss
- Vision loss
- Death (in rare cases)
- Lack of coordination
- Convulsions
- Small head size
- Mental disability

Children with congenital CMV infection are more likely to have permanent disabilities if they have symptoms of this infection at birth.

CMV spreads to Infants

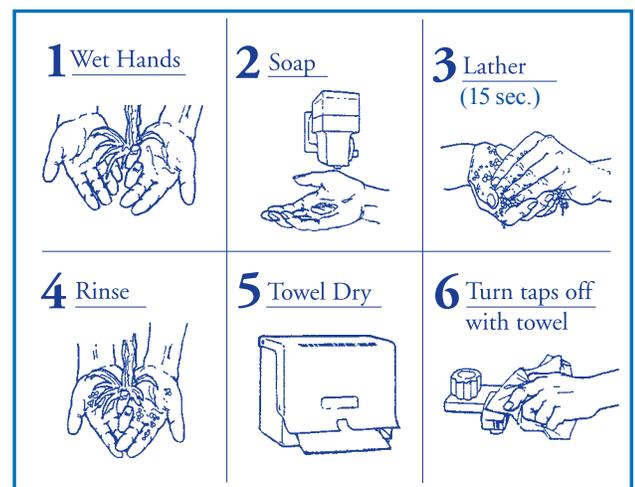
This infection requires close, intimate contact with a person excreting the virus in their urine, saliva, blood, tears, semen or breast milk. An infected mother can pass the virus to her child before, during, or after birth, but transmission happens very rarely. Newborns can also contract CMV infection after receiving a transfusion of blood donated by a person infected with CMV. Although CMV can be found in breast milk, there are no recommendations against breastfeeding as it rarely transmits this type of infection in an infant.

In postnatal infections, the time between exposure to the virus and development of illness is from three to 12 weeks after delivery.

Preventing CMV

Currently, there is no vaccine to prevent CMV infection. The most effective prevention is to avoid exposure to saliva and urine that may contain CMV, and following good infection control practices, such as:

- Proper hygiene and hand washing especially after changing diapers, feeding a young child, wiping a young child's nose or drool, or handling children's toys. Follow the six-step diagram using soap and water, or clean hands with an alcohol based hand cleaner.
- Not sharing eating utensils used by young children, nor food and drinks, and avoiding intimate contact with anyone who has a CMV infection



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- Not putting a child's pacifier in your mouth
- Not sharing a toothbrush with a young child
- Using routine practices when dealing with another person's blood or body fluids
- Not giving newborns transfusions from someone who is seropositive (a positive result in blood) for CMV
- Not performing transplants from seropositive donors to CMV-free recipients

Treating CMV

There is no specific treatment available or recommended for otherwise healthy people with CMV infection. Patients in whom a CMV infection can be life-threatening (such as newborns, organ-transplant patients, and people being treated for cancer or who have immune disorders such as AIDS) may be treated with antiviral medication. Cytomegalovirus immune globulin intravenous may be used as a preventive treatment against CMV infection if associated with organ transplants of the kidney, lung, liver, pancreas or heart.

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